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Filing and Security

UNCLASSIFIED//FOUO

Primary Case: 354D-HQ-A2598659-C

Case Title: (U) FBI OSEP Industrial Hygiene Matters - Mold

Serial Number: 2

Serialized: 03/08/2013

Initiated: 11/27/2012

Referenced By: 354D-HQ-A2598659-C
Lead 2

Details

Document Title: (U//FOUO) 35 Oxford Street, Moonachie, NJ IH/Mold Assessment Following Flooding from Hurricane Sandy

Synopsis: (U//FOUO) An IH and mold assessment was conducted following Hurricane Sandy. Results of the air sampling for fungal spores indicate that there was no significant amplification in the warehouse or the office area. Indoor fungal spore types were not significantly different than those found outdoors, and spore concentrations indoors were much lower than outdoors. This indicates that the warehouse and office indoor environments should not place an individual at increased risk for adverse health effects relative to the outdoors.

Administrative Notes: (U//FOUO)

Package Copy: (U//FOUO)

Details: (U//FOUO)

In support of FBI Occupational Safety and Environmental Programs (OSEP), [redacted] of Consolidated Safety Services, Inc., (CSS), OSEP Industrial Hygiene Contractor, conducted an industrial hygiene assessment at 35 Oxford Drive in Moonachie, NJ to evaluate conditions inside the warehouse after water damage and flooding that occurred during Hurricane Sandy. The assessment was performed on January 30 and [redacted] Safety and Occupational Health Specialist for the FBI New York Field Division, escorted [redacted] during the assessment. b6 b7C

The results of the air sampling for fungal spores indicate that, at the time of the assessment, there was no significant amplification in the warehouse or the office area. Indoor fungal spore types were not significantly different than those found outdoors, and spore concentrations indoors were much lower than outdoors. This indicates that the warehouse and office indoor environments should not place an individual at increased risk for adverse health effects relative to the outdoors.

Fungal growth ma develop on file folders that were removed from the warehouse and placed in freezer storage. Airborne fungal spore concentrations may increase when the file folders currently in freezer storage need to be accessed (e.g. file folders are opened and the contents are removed). It is recommended that the OSEP Regional Manager be contacted before accessing the file folders to assist in the development of a safety and health plan to ensure the protection of employees accessing the folders. The safety and health plan will include recommendations for work practices for handling the boxes, safety and health training, personal protective equipment, and exposure monitoring, if needed.

See the full report attached for complete details.

1A/1C Packages

Package 1A2

[redacted]

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Summary: (U//FOUO) 35 Oxford Street Report of IH/Mold Assessment following Hurricane Sandy

Acquired By: [redacted] b6 b7C

Acquired On: 03/08/2013
Receipt Given: No

Attachments: UNCLASSIFIED//FOUO
(U//FOUO) IH/ Mold Report for 35 Oxford Street
(U//FOUO) 35 Oxford Street IH Assessment - MER.doc (2 MB)
Digital Record

Routing

From: FACILITIES LOG SERVICES, DV-OSEP

Drafted by: [redacted]

Approved by: UC [redacted] b6 b7C
A/AD [redacted]

Distribution: [redacted]

FBI OSEP
35 Oxford Drive, Moonachie, NJ
Industrial Hygiene Assessment

REPORT DATE:	March 8, 2013
SURVEY AREA / SHOP:	Warehouse and Office Areas
LOCATION:	35 Oxford Drive, Moonachie, NJ
COST CODE #:	3540
SURVEY DATE:	January 30, 2013
SUPERVISOR:	[redacted]
POC:	[redacted]
CONDUCTED BY:	[redacted] 703-856-0025 Consolidated Safety Services, Inc. Industrial Hygiene Contractor
REFERENCES:	1) ANSI/ASHRAE Standard 55-2010, *Thermal Environmental Conditions for Human Occupancy* 2) ANSI/ASHRAE 62.1-2010, *Ventilation for Acceptable Indoor Air Quality* 3) EPA 40 CFR Part 50.8, *National Primary Ambient Air Quality Standards for Carbon Monoxide* 4) Recognition, Evaluation, and Control of Indoor Mold, American Industrial Hygiene Association
ATTACHMENTS:	A) Photographs B) Laboratory results

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Background

In support of FBI Occupational Safety and Environmental Programs (OSEP), [redacted] of Consolidated Safety Services, Inc., (CSS), OSEP Industrial Hygiene Contractor, conducted an industrial hygiene assessment at 35 Oxford Drive in Moonachie, NJ to evaluate conditions inside the warehouse after water damage and flooding that occurred during Hurricane Sandy. The facility is a large warehouse (approximately 43,000 ft^2). There are also first floor (approximately 5,900 ft^2) and mezzanine (approximately 5,900 ft^2) office areas in the front of the building. The assessment was performed on January 30 and [redacted] Safety and Occupational Health Specialist for the FBI New York Field Division, escorted [redacted] during the assessment.

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Hurricane Sandy impacted the New York and New Jersey area on October 29, 2012 and the facility at 35 Oxford Drive remained unoccupied for approximately one week following the hurricane. Reportedly, approximately 24 inches of water was present in the facility at the peak of the flooding event. The major impact of the flood was that the bottom two rows of file folders being stored on metal file racks became wet. The files were moved out of the warehouse into freezer trailers and the bottom two rows on the metal file racks remain empty (see Photos 1 and 2).

Survey Method

During the assessment [redacted] performed the following activities: b6 b7C

- Inspected the warehouse for moisture incursion problems,
- Inspected the contents inside the warehouse,
- Measured the moisture content in walls and building materials using a *Tramex Moisture Encounter* meter,
- Measured IAQ parameter measurements (carbon dioxide (CO_2), carbon monoxide (CO), temperature, humidity) using a TSI IAQ Calc direct-reading indoor air quality monitor,
- Collected bulk and tape samples of suspect surface mold contamination,
- Collected air samples to determine fungal spore concentrations using an *Aero Trap Fungal Sampler.*
- All samples were delivered to EMLab P&K in Fairfax, Virginia, for analysis by direct microscopic examination. EMLab P&K is accredited in environmental microbiology by the American Industrial Hygiene Association. Laboratory results pertaining to this building are included in Attachment B.

Findings

The following were reported or noted during the survey:

- There was a thin layer of dry mud residue on the floor in some areas where cleaning equipment could not access the floor (see Photos 3 and 4). Dry mud residue is also present on the metal file rack shelves (see Photos 5, 6 and 7).
- There was evidence of moisture intrusion problems on the cinder block walls in several areas within the warehouse (see Photos 8, 9, 10 and 11).
- Reportedly, the office area was also impacted by the flood. However, all impacted surfaces had been cleaned and the impacted walls and carpet had been replaced.

Monitoring Results

Results of the IAQ monitoring performed during the site visit on January 30, 2013 are provided below.

Indoor Air Quality Readings – January 30, 2013
35 Oxford Drive, Moonachie, NJ

Parameter and Units	Readings	Comments
Temperature (°F)	66 - 67	Building is a warehouse which is not continuously occupied
Relative Humidity (%)	40 – 41	Below 60%, the level above which mold growth may occur on porous cellulose-containing materials
Carbon Dioxide (CO_2) parts per million (ppm)	500 – 510	Less than 700 ppm above the outdoor level of 400 ppm
Carbon Monoxide (CO) parts per million (ppm)	4.4 – 4.6	Less than EPA's National Ambient Air Quality Standard of 9 ppm

Fungal Spore Air Sampling Results

Results of the fungal spore air sampling performed during the site visit on January 30, 2013, including a table and a narrative summary, are provided below.

The total concentration of spores in the samples collected in the warehouse and the office area ranged from 110 spores per cubic meter of air (spores/m^3) to 530 spores/m^3. The concentration in the two outdoor samples ranged from 3,300 to 3,500 spores/m^3, with an average of 3,400 spores/m^3. The concentration of spores in the samples collected indoors was, in all instances, significantly lower than the average level of the samples collected outside. The types of spores identified in the samples collected indoors were similar to those identified in the outdoor

samples. The results do not indicate the presence of a significant indoor mold amplification that would negatively impact the air quality in the warehouse or office areas.

Fungal Spore Air Sample Results – January 30, 2013 35 Oxford Drive, Moonachie, NJ							
Fungi Type	Location						
	08 – Back, left side of warehouse	09 – Right side of warehouse	10 – Break room in office area	11 – Server room in office area	12 - office area	13 – Outside, left side entrance	14 - Outside in front
	Airborne Concentration (Fungal spores/m³)						
Ascospores						160	160
Basidiospores	270	430	110	110		3,000	2,700
Chaetomium							
Cladosporium			110			160	320
Fusarium							
Nigrospora							
Other Brown	13				27		
Other colorless							
Penicillium/Aspergillus types	110	110	53		110	210	53
Pestalotiopsis			13				
Pithomyces							
Rusts							
Smuts, Periconia, Myxomycetes					27	27	13
Stachbotrys							
Stemphylium							
Torula							
Ulocladium							
Zygomycetes							
Total Spores	**390**	**530**	**280**	**110**	**160**	**3,500**	**3,300**

Fungal Spore Tape Sampling Results

The results of analysis of the tape samples collected during the site visit on January 30, 2013 are summarized in the table below.

Fungal Bulk and Tape Sample Results – January 30, 2013 200 Carol Place, Moonachie, NJ		
Sample Number	**Location**	**Results**
T05	Tape sample of dust on bottom shelf of metal file rack near center aisle of warehouse	Variety miscellaneous spores observed
T06	Tape sample of dust on bottom shelf of metal file rack on right side of warehouse	Variety miscellaneous spores observed

Conclusions and Recommendations

The results of the air sampling for fungal spores indicate that, at the time of the assessment, there was no significant amplification in the warehouse or the office area. Indoor fungal spore types were not significantly different than those found outdoors, and spore concentrations indoors were much lower than outdoors. This indicates that the warehouse and office indoor environments should not place an individual at increased risk for adverse health effects relative to the outdoors.

Fungal growth may be present on the file folders that were removed from the warehouse and placed in freezer storage. Airborne fungal spore concentrations may increase when the file folders currently in freezer storage need to be accessed (e.g. file folders are opened and the contents are removed). It is recommended that the OSEP Regional Manager be contacted before accessing the file folders to assist in the development of a safety and health plan to ensure the protection of employees accessing the folders. The safety and health plan will include recommendations for work practices for handling the boxes, safety and health training, personal protective equipment, and exposure monitoring, if needed.

Attachment A
Photographs

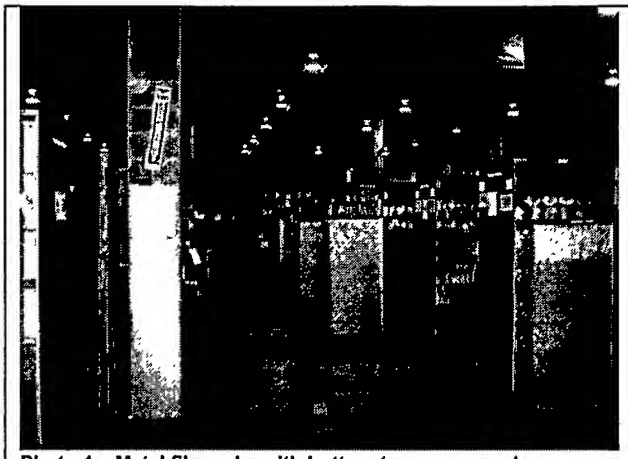

Photo 1 – Metal file racks with bottom two rows empty

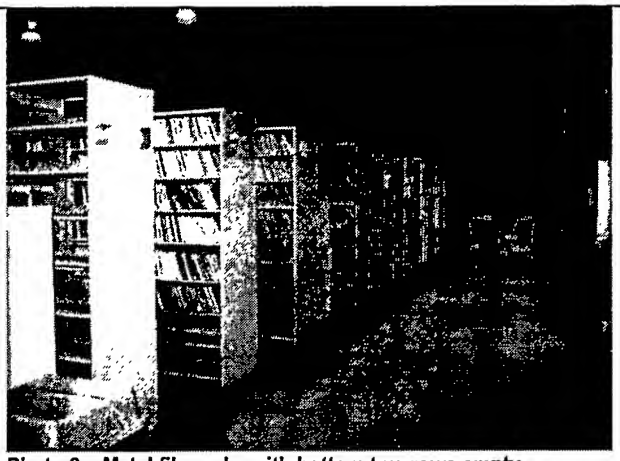

Photo 2 – Metal file racks with bottom two rows empty

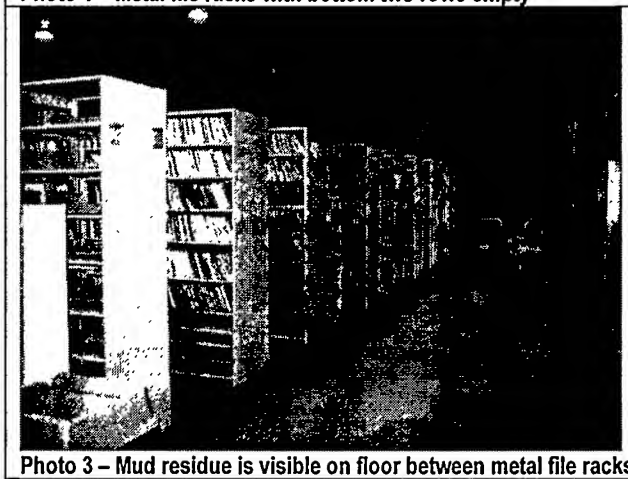

Photo 3 – Mud residue is visible on floor between metal file racks

Photo 4 – Mud residue is visible on floor near metal file racks

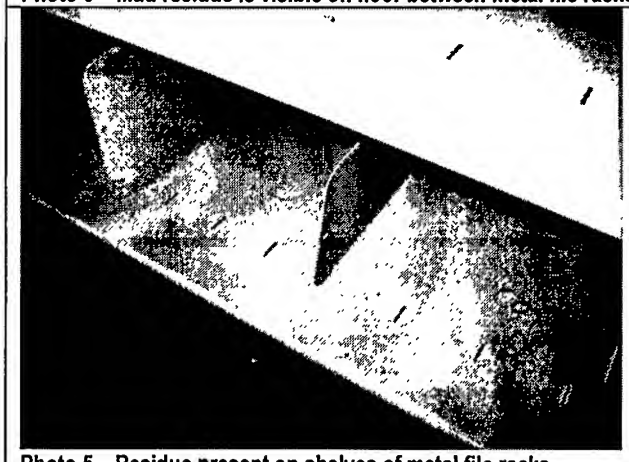

Photo 5 – Residue present on shelves of metal file racks

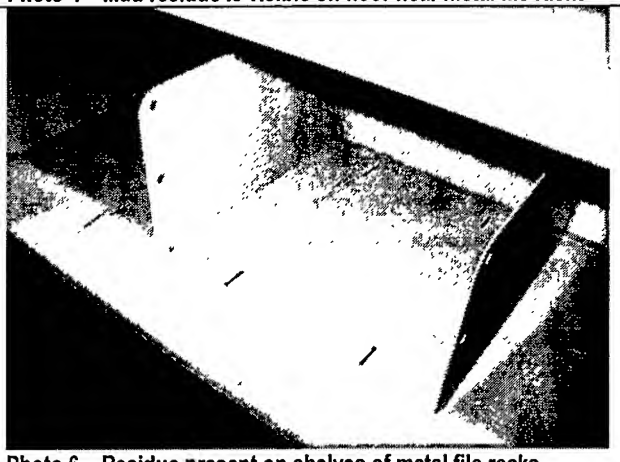

Photo 6 – Residue present on shelves of metal file racks

Attachment A
Photographs

Photo 7 – Residue present on shelves of metal file racks

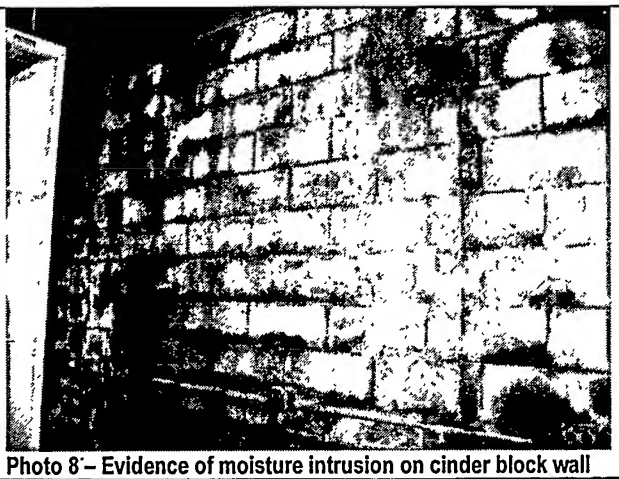

Photo 8 – Evidence of moisture intrusion on cinder block wall

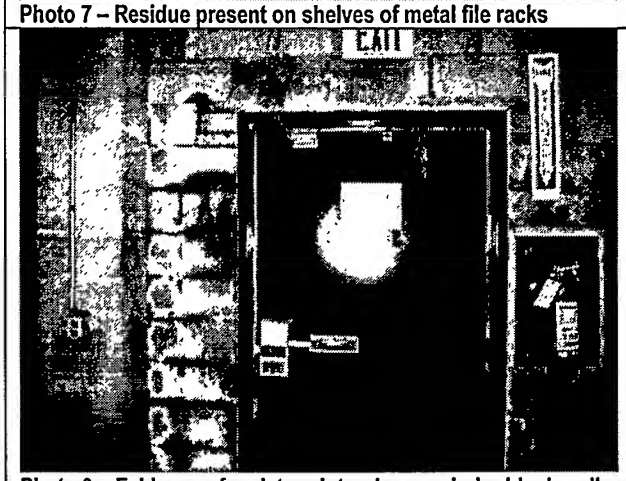

Photo 9 – Evidence of moisture intrusion on cinder block wall

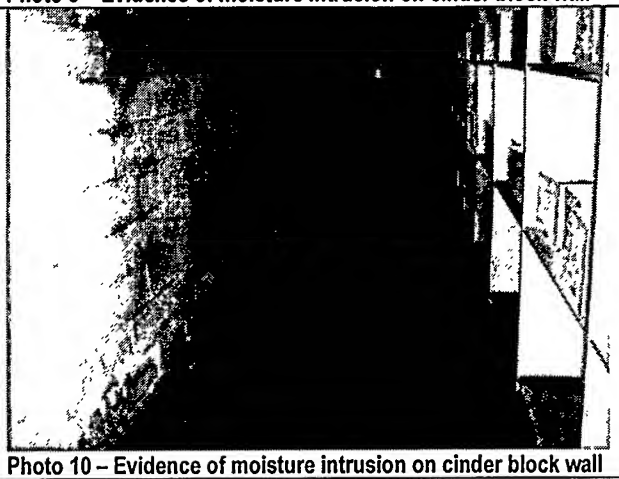

Photo 10 – Evidence of moisture intrusion on cinder block wall

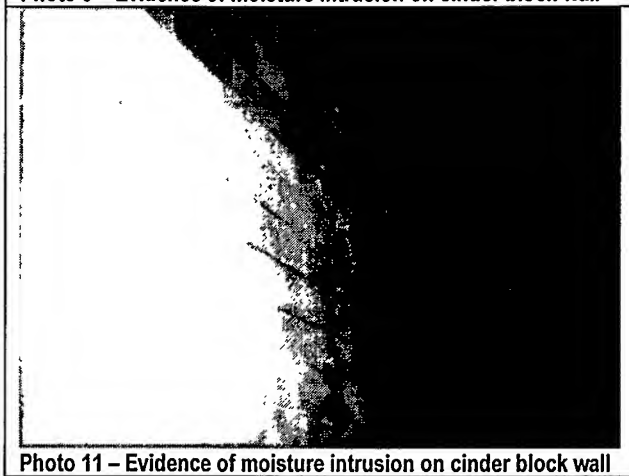

Photo 11 – Evidence of moisture intrusion on cinder block wall

Attachment B
Laboratory Results

EMLab P&K
A TestAmerica Company

Report for:

[redacted] b6 b7C

Consolidated Safety Services, Inc.
10301 Democracy Lane
Suite 300
Fairfax, VA 22030

Regarding: Project: 2074-001
EML ID: 1022041

Approved by:

[redacted] b6 b7C

Dates of Analysis:
Direct microscopic exam (Qualitative): 02-04-2013

Service SOPs: Direct microscopic exam (Qualitative) (1039)
AIHA-LAP, LLC accredited service, Lab ID #179623

All samples were received in acceptable condition unless noted in the Report Comments portion in the body of the report. Due to the nature of the analyses performed, field blank correction of results is not applied. The results relate only to the items tested.

EMLab P&K ("the Company") shall have no liability to the client or the client's customer with respect to decisions or recommendations made, actions taken or courses of conduct implemented by either the client or the client's customer as a result of or based upon the Test Results. In no event shall the Company be liable to the client with respect to the Test Results except for the Company's own willful misconduct or gross negligence nor shall the Company be liable for incidental or consequential damages or lost profits or revenues to the fullest extent such liability may be disclaimed by law, even if the Company has been advised of the possibility of such damages, lost profits or lost revenues. In no event shall the Company's liability with respect to the Test Results exceed the amount paid to the Company by the client therefor.

Attachment B
Laboratory Results

EMLab P&K
3929 Old Lee Highway, Suite 91C, Fairfax, VA 22030
(866) 871-1984 Fax (856) 489-4085 www.emlab.com

Client: Consolidated Safety Services, Inc.
C/O: [redacted]
Re: 2074-001

Date of Sampling: 01-30-2013
Date of Receipt: 02-01-2013
Date of Report: 02-04-2013

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DIRECT MICROSCOPIC EXAMINATION REPORT

Location:	T05: Dust, shelf, center aisle (35 Oxford)	T06: Dust, shelf, right side (35 Oxford)
Sample type:	Tape sample	Tape sample
Lab ID-Version‡:	4576430-1	4576431-1
Analysis Date:	02/04/2013	02/04/2013
MOLD/FUNGAL GROWTH*: Molds seen growing with underlying mycelial and/or sporulating structures		
Acremonium		
Alternaria		
Aureobasidium		
Basidiospores		
Chaetomium		
Cladosporium		
Colorless spores typical of Penicillium / Aspergillus		
Fusarium		
Other colorless, ID unknown		
Stachybotrys		
Torula		
Ulocladium		
Miscellaneous spores**	Variety	Variety
Other comments†	None	None
Background debris or Description††	Very Heavy	Very Heavy
General impression	Normal trapping	Normal trapping

* See Mold/Fungal Growth Details table on the last page.

** See Miscellaneous Spores table on the last page.

† Some comments may refer to the following: Most surfaces collect a mix of spores which are normally present in the outdoor environment. At times it is possible to note a skewing of the distribution of spore types, and also to note "marker" genera which may indicate indoor mold growth. Marker genera are those spore types which are present normally in very small numbers, but which multiply indoors when conditions are favorable for growth.

†† Background debris is an indication of the amounts of non biological particulate matter present. This background amorphous material is graded and described as scant, light, moderate, heavy, or very heavy. (Very heavy background debris may obscure visibility.)

Fungal types listed without a growth rating or data entry were not detected during the course of the analysis for the respective sample.

Interpretation is left to the company and/or persons who conducted the field work.

‡ A "Version" indicated by -"x" after the Lab ID# with a value greater than 1 indicates a sample with amended data. The revision number is reflected by the value of "x".

Attachment B
Laboratory Results

EMLab P&K
3929 Old Lee Highway, Suite 91C, Fairfax, VA 22030
(866) 871-1984 Fax (856) 489-4085 www.emlab.com

Client: Consolidated Safety Services, Inc.
C/O: [redacted]
Re: 2074-001

Date of Sampling: 01-30-2013
Date of Receipt: 02-01-2013
Date of Report: 02-04-2013

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Mold/Fungal Growth Rating Details

Growth Rating	Quantities of molds indicating growth are listed in the MOLD/FUNGAL GROWTH section. Judgement is used in determining the amount of growth present in the sample. For example, if only one portion of the sample has evidence of heavy growth, then it will receive a rating of heavy growth even though, strictly speaking, on a percentage basis of the entire sample, the amount of growth is low.	
	Swab/Tape/Dust/Wipe sample	Bulk Sample
<1+ (Very Light Growth)	Evidence of very light growth observed on the sample as indicated by spores of one type seen with underlying mycelial and/or with their sporulating structures found in less than 10% of the microscopic fields examined.	Areas of very light growth detected by the presence of spores of one type seen with underlying mycelial and/ or with their sporulating structures in the bulk sample.
1+ (Light Growth)	Evidence of light growth observed on the sample as indicated by spores of one type seen with underlying mycelial and/or with their sporulating structures found in 10 to 25% of the microscopic fields examined.	Areas of light growth detected by the presence of spores of one type seen with underlying mycelial and/ or with their sporulating structures in the bulk sample.
2+ (Moderate Growth)	Evidence of moderate growth observed on the sample as indicated by spores of one type seen with underlying mycelial and/or with their sporulating structures found in 26 to 50% of the microscopic fields examined.	Areas of moderate growth detected by the presence of spores of one type seen with underlying mycelial and/ or with their sporulating structures in the bulk sample.
3+ (Heavy Growth)	Evidence of heavy growth observed on the sample as indicated by spores of one type seen with underlying mycelial and/or with their sporulating structures found in 51 to 75% of the microscopic fields examined.	Areas of heavy growth detected by the presence of spores of one type seen with underlying mycelial and/ or with their sporulating structures in the bulk sample.
4+ (Very Heavy Growth)	Evidence of very heavy growth observed on the sample as indicated by spores of one type seen with underlying mycelial and/or with their sporulating structures found to be nearly confluent in the majority of the microscopic fields examined.	Areas of very heavy growth detected by the presence of spores of one type seen with underlying mycelial and/ or with their sporulating structures in the bulk sample.

Miscellaneous Spores

Slides/specimens are examined for the presence of mold spores and pollen, noting the quantities and distribution of spore types found. A designation of 'normal trapping' is made when a mix of spore types is present with the same general distribution as is usually found outdoors. In other words, the biological component of the sample surface is like that found everywhere. Types of spores present would include basidiospores (mushroom spores), myxomycetes (slime molds), plant pathogens such as ascospores, rusts and smuts, and a mix of saprophytic genera with no particular spore type predominating. Many of these spore types would not be found growing indoors on building materials since many plant pathogens require living plants for growth, and mushrooms require compost, leaf duff of various types, or associations with roots of certain trees, etc. Due to these factors, when a mix of spores seen include these types as well as pollen, the rational source is the outside air, rather than indoor mold growth. The numbers of miscellaneous spores seen are graded and described as shown below as none, very few, few, variety, and wide variety.

None	Very Few	Few	Variety	Wide Variety
No spores detected	Very few spores detected	A few spores detected	Many spores containing a variety of different genera detected	Many spores containing a wide variety of different genera detected

Attachment B
Laboratory Results

EMLab P&K
A TestAmerica Company

Report for:

Mr. Mark Pierce
Consolidated Safety Services, Inc.
10301 Democracy Lane
Suite 300
Fairfax, VA 22030

Regarding: Project: 2074-001
EML ID: 1022041

Approved by:

Lab Manager
Ann Atkinson

Dates of Analysis:
Spore trap analysis: 02-04-2013

Service SOPs: Spore trap analysis (1038)
AIHA-LAP, LLC accredited service, Lab ID #179623

Attachment B
Laboratory Results

EMLab P&K
3929 Old Lee Highway, Suite 91C, Fairfax, VA 22030
(866) 871-1984 Fax (856) 489-4085 www.emlab.com

Client: Consolidated Safety Services, Inc.
C/O: Mr. Mark Pierce
Re: 2074-001

Date of Sampling: 01-30-2013
Date of Receipt: 02-01-2013
Date of Report: 02-04-2013

SPORE TRAP REPORT: NON-VIABLE METHODOLOGY

Location:	05: Desk in office (200 Carol)		06: Outside, front (200 Carol)		07: Outside, right side (200 Carol)		08: Back left, warehouse (35 Oxford)	
Comments (see below)	None		None		B		None	
Lab ID-Version‡:	4576436-1		4576437-1		4576438-1		4576439-1	
Analysis Date:	02/04/2013		02/04/2013		02/04/2013		02/04/2013	
	raw ct.	spores/m3	raw ct.	spores/m3	raw ct.	spores/m3	raw ct.	spores/m3
Ascospores			16	850	1	53		
Basidiospores	4	210	77	4,100	71	3,800	5	270
Chaetomium								
Cladosporium	1	53	2	110	4	210		
Fusarium								
Myrothecium								
Nigrospora								
Other brown							1	13
Other colorless								
Penicillium/Aspergillus types†	2	110	2	110	20	430	2	110
Pestalotiopsis								
Pithomyces								
Rusts	1	13						
Smuts, Periconia, Myxomycetes					2	27		
Stachybotrys								
Stemphylium								
Torula					1	13		
Ulocladium								
Zygomycetes								
Background debris (1-4+)††	3+		3+		3+		2+	
Hyphal fragments/m3	< 13		< 13		< 13		< 13	
Pollen/m3	< 13		< 13		40		< 13	
Skin cells (1-4+)	1+		< 1+		< 1+		1+	
Sample volume (liters)	75		75		75		75	
§ TOTAL SPORES/m3		390		5,200		4,500		390

Comments: B) 16 of the raw count *Penicillium/Aspergillus* type spores were present as a single clump.

Spore types listed without a count or data entry were not detected during the course of the analysis for the respective sample.
† The spores of *Aspergillus* and *Penicillium* (and others such as *Acremonium, Paecilomyces*) are small and round with very few distinguishing characteristics. They cannot be differentiated by non-viable sampling methods. Also, some species with very small spores are easily missed, and may be undercounted.
††Background debris indicates the amount of non-biological particulate matter present on the trace (dust in the air) and the resulting visibility for the analyst. It is rated from 1+ (low) to 4+ (high). Counts from areas with 4+ background debris should be regarded as minimal counts and may be higher then reported. It is important to account for samples volumes when evaluating dust levels.

The analytical sensitivity is the spores/m3 divided by the raw count. The limit of detection is the analytical sensitivity multiplied by the sample volume divided by 1000.

For more information regarding analytical sensitivity, please contact QA by calling the laboratory.
‡ A "Version" indicated by -"x" after the Lab ID# with a value greater than 1 indicates a sample with amended data. The revision number is reflected by the value of "x".
§ Total Spores/m3 has been rounded to two significant figures to reflect analytical precision.

Attachment B
Laboratory Results

EMLab P&K
3929 Old Lee Highway, Suite 91C, Fairfax, VA 22030
(866) 871-1984 Fax (856) 489-4085 www.emlab.com

Client: Consolidated Safety Services, Inc.
C/O: [redacted]
Re: 2074-001

Date of Sampling: 01-30-2013
Date of Receipt: 02-01-2013
Date of Report: 02-04-2013

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SPORE TRAP REPORT: NON-VIABLE METHODOLOGY

Location:	09: Right side, warehouse (35 Oxford)		10: Break room (35 Oxford)		11: Server room (35 Oxford)		12: Office area (35 Oxford)	
Comments (see below)	None		None		None		None	
Lab ID-Version‡:	4576440-1		4576441-1		4576442-1		4576443-1	
Analysis Date:	02/04/2013		02/04/2013		02/04/2013		02/04/2013	
	raw ct.	spores/m3	raw ct.	spores/m3	raw ct.	spores/m3	raw ct.	spores/m3
Ascospores								
Basidiospores	8	430	2	110	2	110		
Chaetomium								
Cladosporium			2	110				
Fusarium								
Myrothecium								
Nigrospora								
Other brown							2	27
Other colorless								
Penicillium/Aspergillus types†	2	110	1	53			2	110
Pestalotiopsis			1	13				
Pithomyces								
Rusts								
Smuts, Periconia, Myxomycetes							2	27
Stachybotrys								
Stemphylium								
Torula								
Ulocladium								
Zygomycetes								
Background debris (1-4+)††	2+		3+		2+		3+	
Hyphal fragments/m3	< 13		13		< 13		13	
Pollen/m3	< 13		13		< 13		27	
Skin cells (1-4+)	1+		1+		1+		1+	
Sample volume (liters)	75		75		75		75	
§ TOTAL SPORES/m3		530		280		110		160

Comments:

Spore types listed without a count or data entry were not detected during the course of the analysis for the respective sample.
† The spores of *Aspergillus* and *Penicillium* (and others such as *Acremonium, Paecilomyces*) are small and round with very few distinguishing characteristics. They cannot be differentiated by non-viable sampling methods. Also, some species with very small spores are easily missed, and may be undercounted.
††Background debris indicates the amount of non-biological particulate matter present on the trace (dust in the air) and the resulting visibility for the analyst. It is rated from 1+ (low) to 4+ (high). Counts from areas with 4+ background debris should be regarded as minimal counts and may be higher than reported. It is important to account for samples volumes when evaluating dust levels.

The analytical sensitivity is the spores/m3 divided by the raw count. The limit of detection is the analytical sensitivity multiplied by the sample volume divided by 1000.

For more information regarding analytical sensitivity, please contact QA by calling the laboratory.
‡ A "Version" indicated by -"x" after the Lab ID# with a value greater than 1 indicates a sample with amended data. The revision number is reflected by the value of "x".
§ Total Spores/m3 has been rounded to two significant figures to reflect analytical precision.

Attachment B
Laboratory Results

EMLab P&K
3929 Old Lee Highway, Suite 91C, Fairfax, VA 22030
(866) 871-1984 Fax (856) 489-4085 www.emlab.com

Client: Consolidated Safety Services, Inc.
C/O: [redacted]
Re: 2074-001

Date of Sampling: 01-30-2013
Date of Receipt: 02-01-2013
Date of Report: 02-04-2013

b6
b7C

SPORE TRAP REPORT: NON-VIABLE METHODOLOGY

Location:	13: Outside, entrance area (35 Oxford)		14: Outside (35 Oxford)	
Comments (see below)	None		None	
Lab ID-Version‡:	4576444-1		4576445-1	
Analysis Date:	02/04/2013		02/04/2013	
	raw ct.	spores/m3	raw ct.	spores/m3
Ascospores	3	160	3	160
Basidiospores	56	3,000	51	2,700
Chaetomium				
Cladosporium	3	160	6	320
Curvularia				
Epicoccum				
Fusarium				
Myrothecium				
Nigrospora				
Other brown				
Other colorless				
Penicillium/Aspergillus types†	4	210	1	53
Pestalotiopsis				
Pithomyces				
Rusts				
Smuts, Periconia, Myxomycetes	2	27	1	13
Stachybotrys				
Stemphylium				
Torula				
Ulocladium				
Zygomycetes				
Background debris (1-4+)††	3+		3+	
Hyphal fragments/m3	13		< 13	
Pollen/m3	93		210	
Skin cells (1-4+)	< 1+		< 1+	
Sample volume (liters)	75		75	
§ TOTAL SPORES/m3		3,500		3,300

Comments:

Spore types listed without a count or data entry were not detected during the course of the analysis for the respective sample.
† The spores of *Aspergillus* and *Penicillium* (and others such as *Acremonium, Paecilomyces*) are small and round with very few distinguishing characteristics. They cannot be differentiated by non-viable sampling methods. Also, some species with very small spores are easily missed, and may be undercounted.
††Background debris indicates the amount of non-biological particulate matter present on the trace (dust in the air) and the resulting visibility for the analyst. It is rated from 1+ (low) to 4+ (high). Counts from areas with 4+ background debris should be regarded as minimal counts and may be higher then reported. It is important to account for samples volumes when evaluating dust levels.

The analytical sensitivity is the spores/m3 divided by the raw count. The limit of detection is the analytical sensitivity multiplied by the sample volume divided by 1000.

For more information regarding analytical sensitivity, please contact QA by calling the laboratory.
‡ A "Version" indicated by -"x" after the Lab ID# with a value greater than 1 indicates a sample with amended data. The revision number is reflected by the value of "x".
§ Total Spores/m3 has been rounded to two significant figures to reflect analytical precision.